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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/917,766	07/31/2001	Yukio Kumazawa	046601-5102	1188
9629	7590	01/25/2005	EXAMINER	
MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004			ROSARIO VASQUEZ, DENNIS	
			ART UNIT	PAPER NUMBER
			2621	

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/917,766

Applicant(s)

KUMAZAWA, YUKIO

Examiner

Dennis Rosario-Vasquez

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amend. September 14, 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 9 and 11- 23 is/are rejected.
- 7) ☒ Claim(s) 5-8 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment was entered on September 14, 2004. Claims 1-23 are pending.

Response to Arguments

2. Applicant's arguments filed September 14, 2004 on pages 12,13 have been fully considered but they are not persuasive.

The amendments states on page 12, lines 17,18,"extracting a predetermined pixel block commonly appearing at lest in some pages from an input document image," is not taught by Takeda et al.

However, Takeda et al. does teach extracting a predetermined pixel block (The step of fig. 4, num. 113 "detects" or extracts the four lines of the frame of fig.2 ,num. 38 in col. 5, lines 32-34.) commonly appearing (The four extracted lines appear in common on any image that enters the process represented as numerals 22 and 23 of figure 2.) at least in some pages (fig. 2, num. 3:FILE contains a plurality of "document images" in the abstract or pages that are inputted into the process represented as numerals 22 and 23 where the 4 lines appear for extraction in fig. 2, num. 23.) from an input document image (Fig. 2,num. 3:FILE is an input "document image" in abstract.).

3. Applicant's arguments filed September 14, 2004 on pages 12,13 have been fully considered but they are not persuasive.

The amendment states on page 12,line 20,21, "correcting a location of the whole input document image so that a position of the extracted predetermined pixel block is based on the reference position." is not taught by Takeda et al.

However, Takeda et al. does teach correcting a location (fig. 2,num. 38 is a location of an image to be corrected to a new location as shown in fig. 2,num. 42.) of the whole input document image (Fig. 2,num. 3:FILE is an input "document image" in abstract that can be corrected as a whole shown in numerals 38 and 42.) so that a position (fig. 2,num. 38 is a positioned as shown.) of the extracted predetermined pixel block (The step of fig. 4, num. 113 "detects" or extracts the four lines of the frame of fig.2 ,num. 38 in col. 5, lines 32-34.) is based on the reference position (Fig. 2,num. 23 is a position of an image with "four corner points" in col. 6, lines 13-25 and is used as a basis for correcting an image 38 of fig. 7 to the image of fig. 7, num. 42 using four corner points of fig. 7,num. 38.).

Claim Objections

4. Due to the amendment, the objection to claim 9 has been withdrawn.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4,11-17,19-21 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Takeda et al. (US Patent 4,985,930 A).

Regarding claim 1, Takeda et al. discloses a document image processing device, comprising:

a) a predetermined pixel block extraction part (The step of fig. 4, num. 113 has a part that detects the lines of the frame of fig. 2, num. 38 at col. 5, lines 33,34.) that extracts a predetermined pixel block (The step of fig. 4, num. 113 "detects" or extracts the four lines of the frame of fig.2 ,num. 38 in col. 5, lines 32-34.) that appears commonly (The four extracted lines appear in common on any image that enters the process represented as numerals 22 and 23 of figure 2.) on at least some pages (fig. 2, num. 3:FILE contains a plurality of "document images" in the abstract or pages that are inputted into the process represented as numerals 22 and 23 where the 4 lines appear for extraction in fig. 2, num. 23.) from an input document image (Fig. 2,num. 3:FILE is an input "document image" in abstract.); and

b) an image correction part (The step of figure 4, num 113 has an additional part that corrects an image as shown in figure 7 (col. 5, lines 31-44).) that corrects a location (fig. 2,num. 38 is a location of an image to be corrected to a new location as shown in fig. 2,num. 42.) of the whole input document image (Fig. 2,num. 3:FILE is an input "document image" in abstract that can be corrected as a whole shown in numerals 38 and 42.) so that a position (fig. 2,num. 38 is a positioned as shown.) of the predetermined pixel block (The step of fig. 4, num. 113 "detects" or extracts the four lines of the frame of fig.2 ,num. 38 in col. 5, lines 32-34.) extracted by the predetermined pixel block (The step of fig. 4, num. 113 "detects" or extracts the four lines of the frame of fig.2 ,num. 38 in col. 5, lines 32-34.) extraction part (The step of fig. 4, num. 113 extracted the four lines.) is based on or coincident with a reference position or a position (Fig. 2,num. 23 is a position of an image with "four corner points" in col. 6, lines 13-25 and is used as a basis for correcting an image 38 of fig. 7 to the image of fig. 7, num. 42 using four corner points of fig. 7,num. 38 to coincide with the four corner points of fig. 7,num. 42.) of a reference pixel block (Fig. 2,num. 23 is a position of an image that contains a pixel block 33 that is used as a reference block as shown in fig. 7,num. 27.) in the document image (Fig. 2,num. 3:FILE is an input "document image" in abstract that inputs document 23 via numeral 22.)

Regarding claim 2, Takeda et al. discloses the document image processing device according to claim 1, further comprising:

a) a reference position designation part (Fig. 4, num. 113: NORMALIZE INCLINATION AND SIZE.) that causes a user (Fig. 4, num. 113 allows a user to insert a bar code in col. 6, lines 60-63. Note that Takeda et al. states, "However, the key word 34 such as a bar code...added to the image 23 may be used to search an original image (col. 7, lines 12-16)." Thus, a user inserts a bar code 33b as shown in fig. 9.) to designate in advance(The bar code is inserted in advance in fig. 2,num. 33 before any corrections are made in fig. 2,num.26 and 27.) the reference position (Fig. 2,num. 23 is a position of an image with "four corner points" in col. 6, lines 13-25.) of the reference pixel block (Fig. 2,num. 23 is a position of an image that contains a pixel block 33.) in the document image (Fig. 2,num. 3:FILE is an input "document image" in abstract that inputs document 23 via numeral 2.).

b) an image correction part (The step of figure 4, num 113 has an additional part that corrects an image with skew as shown in figure 7 (col. 5, lines 31-44).) that corrects a location (fig. 2,num. 38 is a location of an image to be corrected to a new location as shown in fig. 2,num. 42.) of the whole input document image (Fig. 2,num. 3:FILE is an input "document image" in abstract that can be corrected as a whole shown in numerals 38 and 42.) so that a position (fig. 2,num. 38 is a positioned as shown.) of the predetermined pixel block (The step of fig. 4, num. 113 "detects" or extracts the four lines of the frame of fig.2 ,num. 38 in col. 5, lines 32-34.) extracted by the predetermined pixel block (The step of fig. 4, num. 113 "detects" or extracts the four lines of the frame of fig.2 ,num. 38 in col. 5, lines 32-34.) extraction part (The step of fig. 4, num. 113 extracted the four lines.) is based on or coincident with a reference position or a position (Fig. 2,num. 23 is a position of an image with "four corner points" in col. 6, lines 13-25 and is used as a basis for correcting an image 38 of fig. 7 to the image of fig. 7, num. 42 using four corner points of fig. 7,num. 38 to coincide with the four corner points of fig. 7,num. 42.) of a reference pixel block (Fig. 2,num. 23 is a position of an image that contains a pixel block 33 that is used as a reference block as shown in fig. 7,num. 27.) in the document image (Fig. 2,num. 3:FILE is an input "document image" in abstract that inputs document 23 via numeral 22.) designated by the reference position designation part (Fig. 4, num. 113: NORMALIZE INCLINATION AND SIZE.).

Regarding claim 3, Takeda et al. discloses the document image processing device according to claim 1 , further comprising:

a) an image memory part (fig. 1 , num. 7:"memory") that holds the input document image (The memory of fig. 1, num. 7 holds the input document image as discussed in col. 4, lines 45-66.) per each page (The memory of fig. 1, num. 7 holds one page as shown in figure 2, num. 23 and described in col. 4, line 31-37 and col. 7, lines 3-6.)

b) wherein the predetermined pixel block extraction part analyzes a layout of the document image in plural pages to be processed stored in the image memory part (Figure: 4, num. 1 13 detects the four lines individually to form the frame as a layout as discussed in claim 1. Note that each line of the frame is made of line patterns and each frame encloses character font patterns as mentioned in col. 4, lines 65,66. Therefore each frame has a line pattern that is detected from the character font patterns.), and if there is approximately the same pixel block at a same position in the document image of each page (The frame 38 is skewed from an upright position. Note that each skewed frame was previously added in the step of figure 3, num. 103 and shown in figure 2, num. 23.), the predetermined pixel block extraction part regards the pixel block as a predetermined pixel block (The step of fig. 4, num. 1 13 detects the lines of the skewed frame of figure 2, num. 38 as discussed in claim 1 .) and determines the reference position (The step of fig. 4, num. 1 13 also uses the frame of fig. 2, num. 33 as a reference position for correcting the skew of the frame of fig. 2, num. 38 and discussed in claim 1 .).

Claim 4 is rejected the same as claims 2 and 3. Thus, argument similar to that presented above for claims 2 and 3 are equally applicable to claim 4.

Regarding claim 11, Takeda et al. finds a pixel block (fig. 2, num. 38) that is approximately in the same position (The pixel block may not be upright position as shown in figure 2, num. 38, but the pixel block is approximately in the upright position.) for any page number.

Claim 12 is rejected the same as claim 1. Thus, argument similar to that presented above for claim 1 is equally applicable to claim 12.

Regarding claim 13, Takeda et al. discloses the document image processing device according to claim 12, wherein the skew correction part subjects a center coordinate (Figure 6 shows how the step of figure 4, num. 113 uses a center coordinate "P3". Note that the coordinate "P3" is in between the upper and lower edges of the document 38.) of a rectangular frame (Fig. 6, numeral. 38 is a rectangular frame.) of pixel blocks (Figure 6, num. 26 is an image document of pixels.) to Hough transform (Figure 6 is a graphical representation of the process of figure 5 which is a program that uses a Hough conversion algorithm that detects lines at col. 5, lines 51-54.) to detect a skew angle (Figure 6 has an angle ":" as the skew angle.).

Regarding claim 14, Takeda et al. discloses the document image processing device according to claim 1, wherein the predetermined pixel block corresponds to a page number image (fig. 2, num. 38 is a frame that contains a page number in the upper right corner labeled as "001".), the document image processing device further comprising:

a) a character recognition part (The computer program step of fig. 3, num. 101 retrieves a keyword or number from a document image..."in conformity with character recognition...Takeda et al., col. 4, lines 48,61,62)".) that recognizes a character in an image; and

b) a sort part (The step of fig. 4, num. 115 uses an image file as shown in figures 1 and 2, num. 3 that stores images using keywords as shown in figure 2, num. 39 that can be used for later retrieval of the corresponding document image using the keywords.) that sorts the pages in the page number order (The keywords can be a sequence of numbers corresponding to a plurality of images as mentioned in col. 4, line 48 and col.7, lines 9-12.) after the image correction part corrects the location of the whole input document image (The document images are first corrected and re-stored using the keyword and image file of figure 1, num. 3 and mentioned in col. 7, lines 9-12 and 19-23) and the character recognition part recognizes the page number character in the page number image.

Claim 15 is rejected the same as claim 1. Thus, argument similar to that presented above for claim 1 is equally applicable to claim 15.

Claims 16 is rejected the same as claims 1 and 3. Thus, argument similar to that presented above for claims 1 and 3 are equally applicable to claim 16.

Claims 17 is rejected the same as claims 2 and 3. Thus, argument similar to that presented above for claims 2 and 3 are equally applicable to claim 17.

Claims 19 and 21 are rejected the same as claims 1-3. Thus, argument similar to that presented above for claims 1-3 are equally applicable to claims 19.

Claim 20 is rejected the same as claims 1 and 3. Thus, argument similar to that presented above for claims 1 and 3 are equally applicable to claim 20.

Claim 23 is rejected the same as claim 1. Thus, argument similar to that presented above for claim 1 is equally applicable to claim 23.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 9, 18, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda et al. (US Patent 4,985,930 A) in view of Hashiya et al. (US Patent 6,333,997 B1).

Regarding claim 9, Takeda does not teach the limitations of claim 9, but does suggest a size normalization procedure of a document (fig. 2, num. 26) relative to another document (fig.2, num. 23) that normalizes the size of the frame for detecting a resized frame as mentioned in Takeda et al, col. 5, lines 26-44. Therefore, the document and the frame of fig.2, num. 26,38,respectively, are scaled to the size of the document and frame of fig.2, num. 23,33, respectively.

However, Hashiya et al. teaches a document image (fig. 3 is a document image scanned by scanner 103.) processing device (Fig. 16 includes the scanner of figure 3, num. 103 as shown in figure 16, num. 103.), further comprising an undetected log generation pad (fig. 16, num. 302 accumulates detection data in a memory with address locations for multiple detections as shown in figure 17 which shows two process numbers for each detection. Hashiya et al. states," The process number indicates the number of a process in which detection could not be performed (col. 10, lines 39,40).") Thus figure 17 shows two process numbers in which detection could not be performed.) that records information of the document image from which a pixel block extraction part (fig. 16, num. 301 is an "OBJECT SELECTIING) SECTION" that selects an area as shown in fig. 3, label "P".) cannot extract a pixel block (fig. 16, label "P" as shown in detail in figure 3 is selected using fig. 16, num. 301 to determine...whether or not the position of the...object P can be determined (col. 10, lines 19-22).").

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the teaching of Takeda et al.'s normalization teaching between documents with Hashiya et al.'s teaching of the parts of figure 16, numerals 301 and 302, because Hashiya et al.'s teaching provides feedback to a user as shown in figure 18 by an error message and a corrective action message that will improve the recognition performance of an object to be detected.

Claims 18 and 22 are rejected the same as claim 9. Thus, argument similar to that presented above for claim 9 is equally applicable to claims 18 and 22.

Allowable Subject Matter

9. Claim 5-8 and 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Rosario-Vasquez whose telephone number is 703-305-5431. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Boudreau can be reached on 703-305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2621

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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